



University of Groningen

**Erratum: "A quantitative analysis of surface deformation by stick/slip atomic force microscopy"**  
[J. Appl. Phys. 82, 3763 (1997)]

Kerssemakers, J.; De Hosson, J. Th. M.

*Published in:*  
Journal of Applied Physics

*DOI:*  
[10.1063/1.366589](https://doi.org/10.1063/1.366589)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
1998

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Kerssemakers, J., & De Hosson, J. T. M. (1998). Erratum: "A quantitative analysis of surface deformation by stick/slip atomic force microscopy" [J. Appl. Phys. 82, 3763 (1997)]. Journal of Applied Physics, 83(6), 3444-3444. <https://doi.org/10.1063/1.366589>

**Copyright**

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

**Take-down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

## Erratum: “A quantitative analysis of surface deformation by stick/slip atomic force microscopy” [J. Appl. Phys. 82, 3763 (1997)]

J. Kerssemakers, and J. Th. M. De Hosson

Citation: [Journal of Applied Physics](#) **83**, 3444 (1998); doi: 10.1063/1.366589

View online: <https://doi.org/10.1063/1.366589>

View Table of Contents: <http://aip.scitation.org/toc/jap/83/6>

Published by the [American Institute of Physics](#)

---

---

**AIP** | Journal of  
Applied Physics

SPECIAL TOPICS



## ERRATA

### Erratum: "A quantitative analysis of surface deformation by stick/slip atomic force microscopy" [J. Appl. Phys. 82, 3763 (1997)]

J. Kerssemakers and J. Th. M. De Hosson<sup>a)</sup>

*Department of Applied Physics, Materials Science Center, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands*

[S0021-8979(98)10406-1]

Some errors were made in the derivation of Eq. (A11). It is written

$$C_{\text{eff}} \equiv \left[ -\frac{dF_{\text{lat}}}{dx_s} \right]^{-1} = \left[ -\left( \frac{\cos(\alpha)}{H} \right) \frac{\sin(\alpha) + O_F \cos(\alpha)}{C_\theta H O_F + C_{\theta z}} \right]^{-1}, \quad (\text{A11})$$

with

$$O_{\mu, \text{fixed}} = O_F = \frac{C_\theta H \sin(\alpha) - C_{\theta z} \cos(\alpha)}{C_z \cos(\alpha) - C_{\theta z} H \sin(\alpha)}. \quad (\text{A12})$$

It should be

$$C_{\text{eff}} \equiv \left[ -\frac{dF_{\text{lat}}}{dx_s} \right]^{-1} = - \left[ \frac{C_z \cos^2 \alpha - 2C_{\theta z} H \sin \alpha \cos \alpha + C_\theta H^2 \sin^2 \alpha}{C_\theta C_z H^2 - C_{\theta z}^2 H^2} \right]^{-1}. \quad (\text{A11})$$

Because of this, Table I in the main text also changes. The center part reads

Compliances	Value	Stiffness	Value  N/m
$C_\theta = L/Ewt^3$	$1.46 \times 10^8$	$[C_\theta H^2]^{-1}$	$486 \pm 120$
$C_z = L^3/3Ewt^3$	0.76	$[C_z]^{-1}$	$1.31 \pm 0.33$
$C_{\theta z} = L^2/2Ewt^3$	$9.15 \times 10^3$	$[C_{\theta z} H]^{-1}$	$29.1 \pm 7.3$
$C_{\text{eff}}$	$2.18 \times 10^{-3}$	$[C_{\text{eff}}]^{-1}$	$459 \pm 110$

This part should be written

Compliances	Value	Stiffness	Value  N/m
$C_\theta = 12L/Ewt^3$	$1.76 \times 10^9$	$[C_\theta H^2]^{-1}$	$40 \pm 9$
$C_z = 4L^3/3Ewt^3$	9.16	$[C_z]^{-1}$	$0.11 \pm 0.03$
$C_{\theta z} = 6L^2/2Ewt^3$	$11.0 \times 10^4$	$[C_{\theta z} H]^{-1}$	$2.4 \pm 0.6$
$C_{\text{eff}}$	$7 \times 10^{-3}$	$[C_{\text{eff}}]^{-1}$	$151 \pm 34$

Therefore, the calculated value of stiffness for  $\text{TiS}_2$  as it was calculated in the main text with the help of Eq. (3) changes. This value was given as  $(1.1 \pm 2.0) \times 10^2$  N/m. It should be  $(3.5 \pm 0.5) \times 10^1$  N/m. The conclusions as drawn from the derivations and calculations do not change.

<sup>a)</sup> Author to whom all correspondence should be addressed; Electronic mail: hossonj@phys.rug.nl